

What Is Claimed Is:

Sub B1
1. A method of recovering cadmium and/or zinc from soil containing cadmium and/or zinc, comprising:

5 (a) cultivating at least one *Thlaspi caerulescens* plant that accumulates from about 1000 to about 6000 mg cadmium/kg above-ground tissues on a dry weight basis and/or from about 15,000 to about 30,000 mg zinc/kg above-ground tissues on a dry weight basis under conditions sufficient to permit said at least one *Thlaspi caerulescens* plant to accumulate such amounts of cadmium and/or zinc; and

10 (b) recovering the accumulated cadmium and/or zinc.

2. The method of claim 1, wherein the accumulated cadmium and/or zinc is recovered by harvesting said at least one *Thlaspi caerulescens* plant as biomass material after accumulation of cadmium and/or zinc and recovering said cadmium and/or zinc from said biomass material.

15 3. The method of claim 2, wherein said cadmium and/or zinc is recovered from said biomass material by drying and combusting said harvested biomass material to oxidize and vaporize organic material present.

20 4. The method of claim 2, wherein said cadmium and/or zinc is recovered from said biomass material by incineration and reduction to ash with energy recovery to give a zinc- and/or cadmium-containing ore.

5. A zinc and/or cadmium-containing ore produced by the method of claim 4.

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6. The method of claim 1, wherein said at least one *Thlaspi caerulescens* plant is *Thlaspi caerulescens* G15, the seeds of which have been deposited under ATCC Accession No. 203439.

5 7. The method of claim 1, wherein the soil is acidified prior to cultivation.

8. The method of claim 1, wherein at least one chloride salt is added to the soil prior to cultivation.

9 An isolated *Thlaspi caerulescens* plant cultivated on cadmium- and/or zinc-containing soil that accumulates cadmium in above-ground tissue at a concentration of from about 100 mg/kg dry weight of said tissue to about 6000 mg/kg dry weight of said tissue and/or accumulates zinc in above-ground tissue at concentration of from about 5000 mg/kg dry weight of said tissue to about 30,000 mg/kg dry weight of said tissue.

10 11. The isolated *Thlaspi caerulescens* plant of claim 9, wherein the genotype is *T. caerulescens* G15.

12. Pollen of the plant of claim 9.

13. A plant having all the physiological and morphological characteristics of the plant of claim 9.

20 14. Propagation material of the plant of claim 9.

15 16. A *Thlaspi caerulescens* G15 seed as deposited with the ATCC having Accession No. 203439.

15. Cultivated *Thlaspi caerulescens* G15, the seeds of which have been deposited under ATCC Accession No. 203439.

16. A method of decontaminating soil containing cadmium and/or zinc, comprising cultivating at least one *Thlaspi caerulescens* plant that accumulates from about 100 to about 6000 mg cadmium/kg above-ground tissues on a dry weight basis and/or from about 5000 to about 30,000 mg zinc/kg above-ground tissues on a dry weight basis under conditions sufficient to permit said at least one *Thlaspi caerulescens* plant to accumulate such amounts of cadmium and/or zinc.

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